Live - Learn - Work - Play in Carrollton Georgia

WATER CONSERVATION PLAN

Revised July 9, 2002
Approved by the Mayor and City Council – November 18, 2002
Revised March 31, 2003
Revised January 9, 2003

PURPOSE

To comply with the Permit to Operate a Water Treatment Plant and the Surface Water Withdrawal Permit issued to the City of Carrollton by the Georgia Department of Natural Resources Environmental Protection Division, the City is Required to prepare a water conservation plan which addresses the following elements of its water conservation program:

1. System management
2. Treatment Plant Management
3. Rate Making Policies
4. Establishment of water use priorities
5. Plumbing ordinances and/or codes
6. Recycle-reuse
7. Public education programs for routine water conservation during droughts or emergencies.
8. Progress reports
9. Water use data
10. Long range planning
11. Additional water conservation activities

SYSTEM MANAGEMENT

A. DETERMINATION OF UNACCOUNTED FOR WATER IN THE SYSTEM

Unaccounted for water is determined on a monthly basis by the Public Utilities Administrator (PUA). The PUA uses the monthly billing report and the water plant monthly report to calculate the unaccounted for water. This information is maintained on a computer spreadsheet, which also calculates a cumulative,

unaccounted for rate for the year. Seven (7) years of monthly and cumulative data is currently maintained in this spreadsheet.

B. PROGRAM FOR LEAK DETECTION AND ELIMINATION:

The City currently has no formal leak detection program. However, the SCADA system installed at the Water Treatment Plant tracks distribution tank levels and water production rates, which aid in identifying areas with suspected leaks. Suspected leak areas are inspected by Systems Upkeep crews and repairs are made in a prompt manner. In addition, leaks reported to the City or identified by City personnel are responded to and treated as urgent job orders by the Systems Upkeep section. All repairs are documented in the Systems Upkeep monthly report.

C. AVAILABILITY OF ACCURATE MAPS OF THE WATER SYSTEM:

Current and complete maps are maintained by the Public Utilities Administrator. These maps are updated on an annual basis and issued to all City crews involved in construction and maintenance of the water distribution system.

D. METER MAINTENANCE, TESTING, CALIBRATION, ETC

The Metering Operations is currently on schedule to replace all small commercial and residential meters every 15 years (43 per month). The Metering Operations section replaced 423 of the meters during 2003. Intense monitoring of high use customers on-going. The entire UME of all high use meters is replaced annually or if any unusual activity occurs. The City of Carrollton created a new position at the beginning of FY 00/01 for the sole purpose of replacing meters.

E. FLUSHING PROGRAM:

The City of Carrollton currently performs systematic flushing of water mains rotating quadrants approximately every two (2) months to prevent the degradation of water quality.

F. INTERCONNECTIONS WITH OTHER SYSTEMS:

The City of Carrollton is connected with the Carroll County Water Authority (CCWA) at seven metered locations. The City did not purchase water from any system during 2003, however during emergency situations it is possible to receive water from the CCWA. The City sold approximately 30 Million Gallons of water to the CCWA during 2003.

G. ANY ADDITIONAL ACTIVITIES PERTAINING TO SYSTEM MANAGEMENT.

The City initiated an improved work order tracking system in 1994 and established a single customer service point to better track customer requests and management of work requirements. This system improved our tracking of maintenance items and thus improved customer service and management of leak repairs. Also, this system is revised as needed to continually improve the aforementioned areas.

TREATMENT PLANT MANAGEMENT

A. RAW AND FINISHED WATER METERING:

Metering of raw and finished water is accomplished with venturi meters installed and calibrated by John Christopher, Cal-tec. Calibration is performed annuallly, at a minimum, with an accuracy of +/ - 2%. Calibration records are maintained at the Water Treatment Plant.

B. MINIMUM BASIN OVERFLOWS, UNNECESSARY FILTER BACKWASHNG OR OTHER WATER WASTING PRACTICES.

Basin overflows are prevented and minimized by use of high level alarms. Unnecessary backwashing reduced by enhanced coagulationflocculation processes and standard filter washing procedures. Filter backwashing was 1.69% and laboratory use was 0.02% of total production.

C. RECYCLE AND REUSE OF FILTER BACKWASH FILTER

The city does not recycle or ruse filter backwash water.

D. PLANNED PLANT IMPROVEMENTS

The City installed tube settlers during 2001. The City rehabilitated settling basins #1A, #2, and #3 during 2002. The City will replace filter #9 with an IMS Cap Bottom during 2004.

RATE MAKING POLICIES

The City of Carrollton's water system is financially self-supporting and no water system expenditures are subsidized by non-water/sewer system revenues.

A. METERING OF ALL SERVICE CONNECTIONS:

All know service connections to the City distribution system are metered.

B. PRICING POLICIES:

All water metered above an established minimum usage is billed at a uniform rate.

C. SURCHARGES, DISCOUNTS, OR DEMAND CHARGES TO CERTAIN CUSTOMERS:

:

No customers receive discount on water charges. Effective July 1, 1994, surcharges were established for “irrigation only” meters at a rate of 1.25% during the summer months

ESTABLISHMENT OF WATER USE PRIORITIES

A. CONDITIONS OR EVENTS THAT PUT THE PRIORITY USE INTO EFFECT:

Reservoir levels and/or average daily demands shall be monitored closely and the implementation of priority use and restrictions on water use are as per the City of Carrollton’s Drought Contingency Plan.

B. ADOPTED PRIORITY USE SYSTEM FOR SERVICE DURING PERIODS OF WATER SHORTAGE:

Water use priorities ranked from highest to lowest shall be as follows:

1. Fire protection needs and medical facilities
2. Essential residential use
3. Essential manufacturing use
4. Essential commercial use
5. Non-essential outdoor water use

C. RESTRICTIONS ON LOWER PRIORITY USES (including enforcement procedures);

By resolutions of the Mayor and City Council on June 6, 1988, the City Manager is authorized to implement restrictions on non-essential outside use of potable water at any time prior to the next scheduled meeting of the Council. Continuance of restrictions on non-essential outdoor water use or restriction on higher priority uses will require action of the Mayor and City Council. First

violators of restrictions imposed shall be punished as authorized by the Code of Ordinances of the City of Carrollton. Subsequent violators shall be punished as authorized by the Code of Ordinances of the City of Carrollton and shall have their water meter removed (or locked).

D. RATIONING AND/OR OTHER EMERGENCY PROCEDURES:

Rationing of water would be consistent with the priority uses established as per Drought Contingency Plan.

PLUMBING ORDINANCES AND OR CODES:

The City of Carrollton does not have an ordinance pertaining to outside water usage, however, by resolution of the Mayor and City Council on June 6, 1988, the City Manager is authorized to implement restrictions on non-essential outside use of potable water at any time prior to the next scheduled meeting of the Council. The city of Carrollton's Plumbing Ordinance state that the current Standard Plumbing Code is adopted by reference as the official codes of the city.

A. COMPLIANCE WITH STATE WATER CONSERVATION LAW REQUIRING THE USE OF ULTRA-FLOW PLUMBING FIXTURES:

The City adopted a resolution on February 4, 1991 to comply with the Georgia Water Conservation Act of 1991. The Codes Enforcement Section aggressively enforces compliance with the provisions of this law.

B. SPRINKLING OR IRRIGATION SYSTEMS:

Sprinkler and irrigation systems are currently allowed without restriction except when outdoor water use restrictions are in effect. These systems are billed a surcharge (1.25%) on usage during the summer months.

C. PREVENTION OF UNAUTHORIZED WATER USE:

All unauthorized users of City water are immediately given notice to cease and advised to apply for service. If required, temporary meter/backflow prevention devices are applied for and installed at construction sites requiring water.

RE-CYCLE - REUSE

A. RECYCLE OR REUSE OF TREATED WASTEWATER:

Currently, the City wastewater effluent is disposed of on a land application site. The City is also considering the possibility of recycled water for irrigation use at

West Georgia College, Sunset Hills Country Club golf course, and the athletic complex located at Carrollton High School.

B. RECYCLE OR REUSE OF COOLING WATER RATHER THAN ONCE THROUGH USE:

Two industries are currently recycling cooling water. The Southwire Cooper Refinery during 1993 reduced its water use by more than 1 million gallons per month. Trent Tube has also reduced its water use significantly as a result of recycled cooling water use and other conservation measures. Goldkist, Inc. currently reuses approximately 230,000 gallons per day. The City will continue to work with industries in efforts to recycle water and explore possibilities of using treated wastewater effluent for industrial processes.

PUBLIC EDUCATIION PROGRAMS FOR WATER CONSERVATION AND FOR WATER CONSERVATION DURING DROUGHTS OR EMERGENCIES:

The City will continue to emphasize water conservation through the media, school involvement, and civic clubs. During 2003, the City provided water conservation information in the form of leaflets to city schools and the City's recreation department. These leaflets are also distributed to customers at City Hall and water plant. Both newspaper and radio participated actively in our efforts to increase public awareness. The City of Carrollton also distributed free to customers low flow shower heads and kitchen sink faucets during 2003.

The City is currently enforcing the current statewide year round conservation-based outdoor water use restrictions and constantly emphasizes the importance of water conservation. Odd-numbered addresses can water on Tuesdays, Thursdays, and Sundays and even-numbered addresses can water on Mondays, Wednesdays, and Saturdays each with no hourly limits.

During drought conditions, the City will continue to utilize the local media and messages on utility bills to educate the public on the need to conserve.

PROGRESS REPORT

A. The City will submit a progress report to the Georgia Environmental Protection Division annually which will outlines actions and/or improvements made to conserve water and reduce water loss.

B. The progress report will document water savings achieved by the water system through improvements such as leak detection/repair, meter

installation/calibration and replacement, summer surcharges, enforcement of ultra-low plumbing fixture requirements, etc.

C. A water conservation progress report will be submitted to the director of EPD five (5) years after the issuance of the City of Carrollton's surface water withdrawal permit.

WATER USE DATA

The City will submit to the Georgia Environmental Protection Division an annual water use data report that includes information for UAW for the past 12 months.

With the current City billing software, all customer accounts are coded to provide a general analysis of water use by customer category, which is tabulated as follows:

2003 WATER USAGE SUMMARY

CODE	CATEGORY	MO	# ACTIVE METERS CYCLE 2	CYCLE 2 UNITS	CYCLE 2 AVG GPD	# ACTIVE METERS CYCLE 3	CYCLE 3 UNITS	CYCLE 3 AVG GPD
M1M	MANUFACTURING							
A1M	APARTMENTS							
CCWA	CCWA							
S1M	SPRINKLER							
M2M	MANUFACTURING							
C1M	COMMERCIAL							
R1M	RESIDENTIAL							
W1M	CHURCH							
G1M	GOVERNMENT							
R2M	RESIDENTIAL							
C2M	COMMERCIAL							
G2M	GOVERNMENT							
S2M	SPRINKLER							
W2M	CHURCH							
A2M	APARTMENTS							
M2M	MANUFACTURING							
UIM	SUWG							

*See attached "2003 Water Usage Summary" for a breakdown of total production for each class of customer. (Code 2 denotes "outside City limits")

The following locations are non-billed service connections.

NAME	LOCATION
GAZEBO	MAPLE STREET @ OIL PARK DRIVE
OIL PARK PAVILION	OIL PARK DRIVE
OIL PARK FIELD	SOUTH STREET
OIL PARK PRESS BOX	SOUTH STREET
OIL PARK RESTROOM	SOUTH STREET
SPRAY PARK	ALABAMA STREET
CEMETARY	ALABAMA STREET
LONGVIEW PARK	LONGVIEW STREET
KRAMER STREET PARK	SOURTH/KRAMER STREET
KNOX PARK	AUSTIN AVENUE
BONNER GYM	WEST AVENUE
SENIOR CITIZEN BUILDING	WEST AVENUE
REC DEPARTMENT	WEST AVENUE
WORTHY PARK	WEST AVENUE
SMITHY PARK	CITY HALL @ COLLEGE STREET
ARTS CENTER	ALABAMA STREET
LOG CABIN PARK	N LAKESHORE DR/BANKHEAD
PARKS MAINTENANCE	HOLMES DRIVE
SOUTHWIRE FIELD	ALTON ESTES DRIVE
EAST CARROLL FIELD	ALTON ESTES DRIVE
EAST CARROLL BUILDING	ALTON ESTES DRIVE
NEW GYM	ALTON ESTES DRIVE
KIWANIS FIELD	NORTH LAKESHORE DRIVE
BY PASS SPRINKLER	NORTH SIDE DRIVE/BANKHEAD
NORTH LAKE SOCCER	NORTH LAKE DRIVE
CASTLE PLAYGROUND	NORTH LAKE DRIVE
LAKESHORE TENNIS	NORTH LAKESHORE DRIVE
JAYCEE FIELD	NORTH LAKESHORE DRIVE
LAKE DOCK	NORTH LAKESHORE DRIVE
RESTROOM	LUMPKIN DRIVE
LAKESHORE PARK	LUMPKIN DRIVE
POOL	LUMPKIN DRIVE
POOL CONCESSION	LUMPKIN DRIVE
OLD GYM	CHANDLER STREET
STREETS/SANITATION	ZYZXX STREET
STREETS WASHER	ZYZXX STREET
GAS TERMINAL	ZYZXX STREET
SYSTEM UPKEEP	KINGSBRIDGE ROAD
SYSTEM UPKEEP 2	KINGSBRIDGE ROAD
WEST CARROLLTON REC	HIGH STREET
FIRE STATION	AVENUE C
BELT PRESS 1	JOHNNY WAY
BELT PRESS 2	JOHNNY WAY
BELT PRESS 3	JOHNNY WAY
SPRAY SITE	BALLARD BRIDGE ROAD
HERITAGE HILL PUMP	OLE HICKORY TRAIL
MARTIN CEMETARY PUMP	MARTIN CEMETARY ROAD

FIRE STATION CENTRAL	CENTRAL HIGH ROAD
FIRE STATION CENTRAL 2	CENTRAL HIGH ROAD
RICHARDS PARK	TANNER STREET
TRIANGLE PARK	DIXIE STREET
FIRE STATION DOWNTOWN	WEST CENTER STREET
SYSTEM SUPPORT	WEST CENTER STREET

As of January 2003, the City has 7850 connections. The three (3) major customers, Goldkist and Fresh Advantage, used an average of 0.92 MGD and 0.16 MGD respectively.

LONG RANGE PLANNING

The City continue to emphasize recycle/reuse of cooling water for industrial users and explore the practicality of wastewater reuse for irrigation and industrial coolng water uses. In addition, The Metering Operations is currently on schedule to replace all small commercial and residential meters every 15 years (approx. 43 per month). The entire UME of all high use meters is replaced annually or if any unusual activity occurs. The replacement program will allow for better accountability of City water, which in turn will enable us to formulate better strategies for water conservation. We will have a clearer understanding on where the high demand use is occurring and will be able to better structure our summer surcharge and education program toward the appropriate use categories.

The following water demand protections have been approved by the Chattahoochee-Flint RDC and the City, and will be consistent with the City's comprehensive plan when revised in 2007.

Year	**Population**	**Source**
1980	56,346	U. S. Census
1990	71,422	U. S. Census
2000	83,214	Comprehensive Plan
2010	96,106	Comprehensive Plane
2020	116,288	Engineers Estimate at 21% increase per decade consistent with Tachnical Memorandum No. 11, "Revised Water Supply Needs" and Technical Memorandum No. 5, "West Georgia Water Supply Plan and Environmental Impact Statement", both prepared by CH2Mhill, Inc.
2030	140,709	"

2040	170,258	“
2050	206,112	“

As per EPD approved Needs Analysis dated January 2001, the total water demand for Carroll County in the Year 2050, 43.94 MGD, is the sum of Residential Use, Industrial Use, System Losses, and a Peaking Factor, as follows:

Component	**Use, MGD**	**Derivation**
Residential	24.89	205,716 persons * 121 good
Industrial	9.02	Low Estimate TM5
System Losses	2.71	0.08 * (Residential Use + Industrial Use)
Peaking Factor	7.32	0.20 * (Residential + Industrial + Losses)
Total Demand	43.94	

ADDITIONAL WATER CONSERVATION ACTIVITIES

The City will continue to remain active in the Georgia Water and Pollution Control Association, Water Environmental Federation, American Water Works Association, Georgia Rural Water, Georgia Water Wise Council, and similar organizatons to stay current with water conservation technologies, and strategies.